

6.11.19
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**REGION II RST2 HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE / REMOVAL ASSESSMENT**
(Revised 27 November 2007)

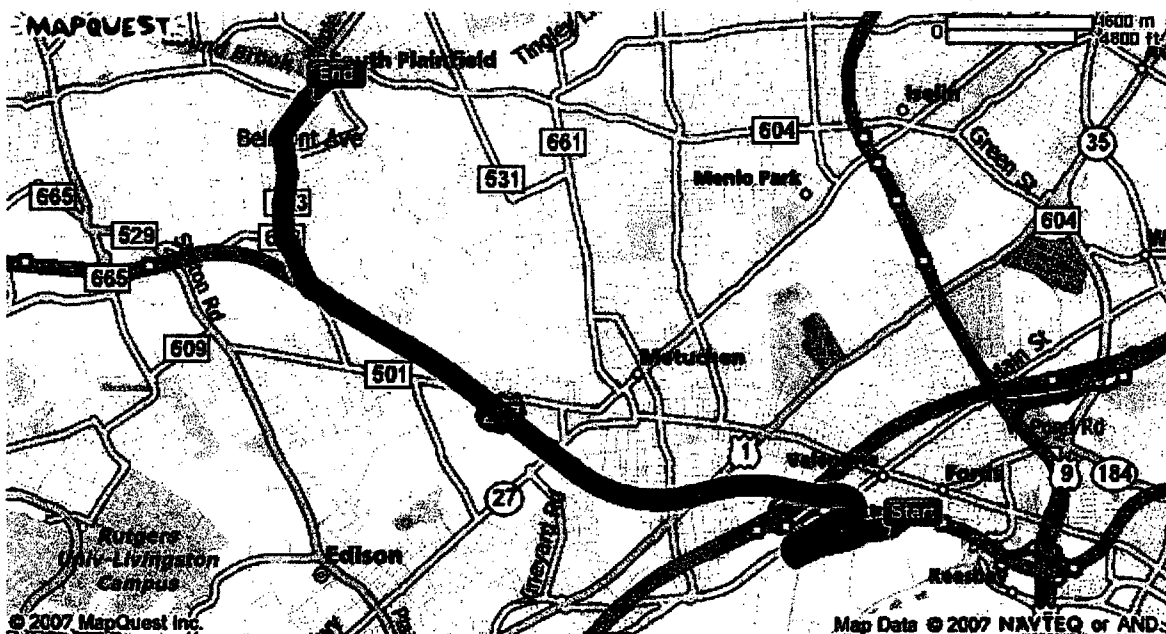
TDD No. TO-0007-0115

Site Name: Cornell-Dubilier Electronics

Site Address: Street No. 333 Hamilton Blvd
City South Plainfield
County/State Middlesex, New Jersey

Directions to Site:

1. Start out going WEST on King Georges Post RD toward Clearview Ave (0.8 mi) 2. Merge onto Woodbridge Ave/CR-514E toward I-287/ New Jersey Turnpike/Rt. 440/Garden State Parkway (0.4 mi) 3. Take the New Jersey Turnpike ramp (0.2 mi) 4. Merge onto I-287 N via the exit on the Left (4.8 mi) 5. Take the Durham Ave exit -Exit 4- toward S Plainfield (0.2 mi) 6. Turn Right onto Durham Ave (0.4 mi) 7. Durham Ave becomes CR-603 (1.2 mi) 8. Stay Straight to go onto Hamilton Blvd (<0.1 mi) 9. Arrive at 333 Hamilton Blvd



Historical/Current Site Information:

The site known as Cornell-Dubilier Electronics is located at 333 Hamilton Blvd, South Plainfield, New Jersey. The site is the location of a former manufacturer of electronic parts and components, including capacitors. Cornell-Dubilier Electronics, Inc. also tested transformer oils. During their operations, the company dumped PCB-contaminated materials and other hazardous substances directly onto the soil at the site. The Site is on the National Priorities List and is being remediated by the EPA Remedial Program and the U.S. Army Corps of Engineers. Currently, the buildings at the Site are being demolished. The Site is approximately 25 acres in size, including an open field and adjoining wetland complex. The Bound Brook traverses the southeast corner of the Site.



In 1997, the Removal Action Branch (RAB) and START collected sediment and soil samples along 2.4 miles of the Bound Brook. In 1999, the floodplain of the Bound Brook was sampled. The purpose of the proposed sampling event is to recreate a portion of the 1997 sampling event to determine if there have been any changes in the PCB concentrations documented in that sampling event. Sediment and water samples will be collected at 50' intervals from forty-four (44) locations along a half-mile stretch of the Bound Brook (Reaches 1-4 from 1997 sampling event). Sediment samples will be obtained from the center of the stream bed and from 2 locations along the north and south banks of the Bound Brook, approximately 5 feet and 10 feet from each stream bank (0-6 inch and 18-24 inch depths). Water samples will be also collected from the center of the stream. There will be a total of approximately 440 sediment samples collected from this Site.

RST Scope of Work:

In accordance with the Assessment Activities Section in the SOW, Weston shall provide 5 RST team members to deploy to the site to collect sediment and stream samples from 44 transects along the Bound Brook. Field work will be for approximately two weeks. Date of Mobilization: Monday December 10, 2007. RST2 will:

- Obtain GPS coordinates of the existing stream and floodplain.
- Mark out proposed sampling locations using GPS coordinates.
- Collect sediment samples from stream bed and banks of the stream.
- Collect water samples from the center of the stream.

Incident Type: ☐ Emergency Response -
 ☐ Removal Assessment -
 ☐ Residential Sampling / Investigation -
 ☐ PRP Oversight -
 ☒ Removal Action - 11/28/2007

Location Class: ☐ Industrial ☒ Commercial ☐ Urban/Residential ☐ Rural

U.S. EPA Contact: Nick Magriples
Original HASP: Yes or No NO
Lead RST2: John Brennan

Date of Initial Site Activities: 11 / 28 / 2007
Modification Number: 0
Site Health & Safety Coordinator: John Brennan
Health & Safety Alternate: TBD

Response Activities/Dates of Response (fill in as applicable)

Emergency Response: ☐ Perimeter Recon.
 ☐ Site Entry
 ☐ Visual Documentation
 ☐ Multi-Media Sampling
 ☐ Decontamination

Assessment: ☒ Perimeter Recon. - 12/10/2007 - 12/21/2007
 ☒ Site Entry - 11/28/2007, 12/10/2007-12/21/2007
 ☒ Visual Documentation - 11/28/2007, 12/10/2007-12/21/2007
 ☒ Multi-Media Sampling - 12/10/2007 - 12/21/2007
 ☒ Decontamination - 12/10/2007 - 12/21/2007

Physical Safety Hazards to Personnel

- | | |
|---|---|
| <input type="checkbox"/> Heat – <i>Attach FLD05</i> | <input checked="" type="checkbox"/> Cold – <i>Attach FLD06</i> |
| <input type="checkbox"/> Precipitation - <i>Attach FLD02</i> | <input type="checkbox"/> Confined Space |
| <input checked="" type="checkbox"/> Terrain - <i>Attach FLD11</i> | <input type="checkbox"/> Noise- <i>Attach FLD01</i> |
| <input checked="" type="checkbox"/> Walking/Working Surfaces | <input type="checkbox"/> Fire & Explosion |
| <input type="checkbox"/> Oxygen Deficiency | <input type="checkbox"/> Underground Utilities– <i>Attach FLD34</i> |
| <input type="checkbox"/> Overhead Utilities | <input type="checkbox"/> Heavy Equipment – <i>Attach FLD22</i> |
| <input type="checkbox"/> Unknowns in Drums, Tanks | <input type="checkbox"/> Ponds, Lagoons, Impoundments |
| <input type="checkbox"/> Waterways – <i>Attach FLD19</i> | <input type="checkbox"/> Pressurized Containers, Systems - <i>Attach FLD16</i> |
| <input type="checkbox"/> Illumination - <i>Attach FLD39</i> | <input type="checkbox"/> Noise- <i>Attach FLD01</i> |
| <input type="checkbox"/> Nonionizing Radiation | <input type="checkbox"/> Ionizing Radiation |
| <input type="checkbox"/> Excavations– <i>Attach FLD28</i> | <input type="checkbox"/> Elevated Work Surfaces / Manlifts - <i>Attach FLD24</i> |
| | <input checked="" type="checkbox"/> Working over or near water - <i>Attach FLD 19</i> |

While working on the slopes and banks of the Bound Brook, employees should give special attention to the briars / thorny vegetation that is pervasive up and down the creek. Avoid walking through patches of briars and if necessary, use shears to clear the vegetation. In addition, each employee should wear chest or hip waders when working in the vicinity of or in the creek due to the anticipated muddy conditions along the banks and high (3-4') water levels.

Any employee working in the boat or in the water must be wearing a personal floatation device (pfd) / life vest. The 12' Jon Boat selected for this project is designed and cannot exceed two personnel at a time. In addition, all personnel should bring a set of extra clothing with them to Site in case their clothes become wet or saturated.

Biological Hazards to Personnel

- ☐ Infectious/Medical/Hospital Waste ☒ Non-domesticated Animals ☐ Insects
☒ Poisonous Plants/Vegetation ☐ Raw Sewage

Training Requirements

- ☒ 40 Hour General Site Worker Course with three days supervised experience
☐ 24 Hour Course for limited, specific tasks with one day supervised experience
☒ 8 Hour Annual Refresher Health and Safety Training
☐ 8 Hour Management/Supervisor Training in addition to basic training course
☐ Site Specific Health and Safety Training
☐ Pre-entry training for emergency response skilled support personnel

Medical Surveillance Requirements

- ☒ Baseline initial physical examination with physician certification
☒ Annual medical examination with physician certification
☐ Site Specific medical monitoring protocol (Radiation, Pesticides, PCBs, Metals)
☐ Asbestos Worker medical protocol
☐ Exempt from medical surveillance _____
☐ Examination required in event of chemical exposure or trauma

Vehicle Use Assessment and Selection

Driving is one of the most hazardous and frequent activities for Weston Employees. As such, Weston Employees are required to adhere to established safe operating practices in order to maintain their eligibility to drive Weston owned, leased, or rented vehicles. Every person riding in a Weston vehicle, including passengers must maintain a commitment for a safe journey. This means being attentive while in the vehicle and helping the driver to notice hazards ahead of and around the vehicle and ensure that their presence does not distract the driver from safely operating the vehicle.

A high percentage of vehicle accidents occur when operating in reverse. Anytime a vehicle is operated in reverse, e.g., backing out of a parking area, if there are passengers, at least one of them are to assist the driver by acting as a guide person during the reverse movement or during other vehicle operation where it would be prudent to have a guide person(s) participate in the vehicle movement. When practical, the preferred parking method would be to back into the parking area.

At a minimum, each Weston Driver must:

- Possess a current, valid drivers' license
- Obey posted speed limits and other traffic laws
- Wear seat belts at all times while the vehicle is in operation
- Conduct a 360 degree inspection around the vehicle before attempting to drive the vehicle
- Report accidents / incidents immediately and complete a Notice of Incident (NOI)
- Keep vehicles on approved roadways (FWD doesn't guarantee mobility on unapproved surfaces)

All Region II RST personnel are experienced and qualified to drive RST fleet vehicles (Trailblazers, Suburbans, Cargo Van, and 10' x 12' Box Truck). However, in the event that vehicle rental is required, each person must take the time to familiarize themselves with that particular vehicle. This familiarization includes adjustment of the dashboard knobs/controls, mirrors, steering wheel, seats, and a 360 degree external inspection of the vehicle.

1. The following vehicles are anticipated to be used on this project:

- ☐ Car
- ☐ Pickup Truck
- ☐ Intermediate / Standard SUV (e.g. Chevy Trailblazer, Chevy Tahoe, Jeep Liberty, Ford Explorer)
- ☒ Full Size SUV (e.g., Chevy Suburban, Ford Expedition, GMC Yukon)
- ☐ Minivan / Cargo Van
- ☒ Box Truck (Size: 17' MEDIUM TRUCK) or Emergency Response Vehicle (ERV)
- ☐ Other JB

2. Are there any on-site considerations that should be noted:

- ☐ Working/Driving Surfaces, ☒ Debris, ☐ Overhead Clearance, ☐ Obstructions, ☒ Tire Puncture Hazards, ☒ Vegetation, ☐ Terrain, ☐ Parking, ☐ Congestion, ☐ Site Entry/Exit Hazards, ☐ Local Traffic Volume, ☐ Security, ☐ Heavy Equipment, ☒ Time/Length of Work Day

Do any of the considerations above require further explanation:

No

3. Are there any seasonal considerations that should be noted (e.g., Anticipated Snowy Conditions):

No

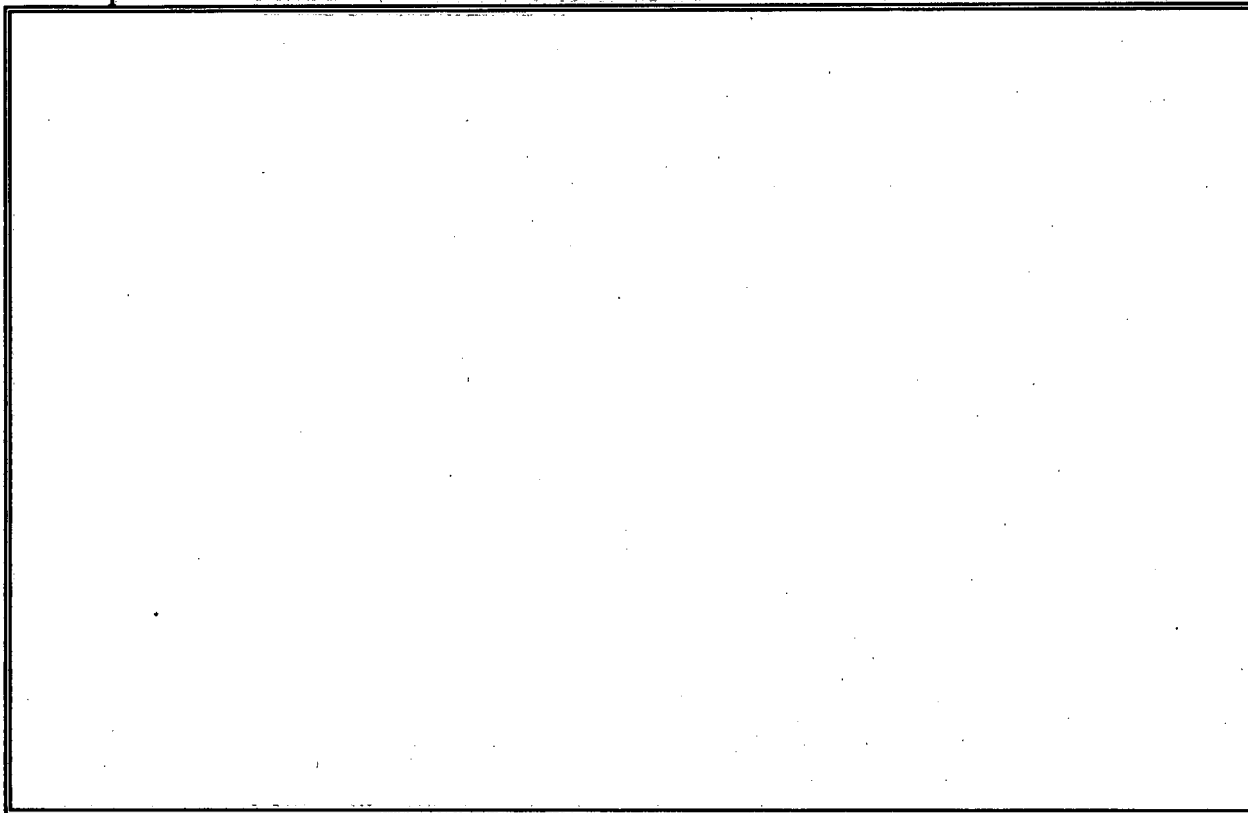
4. Is a Traffic Control Plan required? () Yes / (X) No.

If so, the Traffic Control Plan must be attached to this Health & Safety Plan.

Physical Parameters	Chemical Contaminant
Exposure Limits IDLH Level	Chlorodiphenyl (54% Cl) CAS 11097-69-1 _____ ppm <u>0.5</u> mg/m ³ PEL _____ ppm <u>0.001</u> mg/m ³ REL _____ ppm <u>Ca [5]</u> mg/m ³ IDLH
Physical Form (Solid/Liquid/Gas) Color	<u>X</u> (below 50degF) Solid <u>X</u> Liquid _____ Gas <u>Colorless to light colored</u> <u>or pale yellow</u> Color
Odor	Mild hydrocarbon odor
Flash Point Flammable Limits	<u>NA</u> Degrees F or C <u>NA</u> % UEL <u>NA</u> % LEL
Vapor Pressure	<u>0.00006</u> mm/Hg
Vapor Density	<u>NA</u> Air = 1
Specific Gravity	<u>1.38</u> Water = 1
Solubility	Insoluble
Incompatible Material	Strong oxidizers
Routes of Exposure	<u>X</u> Inh <u>X</u> Abs <u>X</u> Con <u>X</u> Ing
Symptoms of Acute Exposure	Eye irritant, chloracne, liver damage, reproductive effects, (potential occupational carcinogen)
First Aid Treatment	Irrigate eyes immediately for 15 minutes, remove to fresh air. If contacts skin, wash with soap immediately. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Seek medical attention immediately.
Ionization Potential	<u>N/A</u> eV
Instruments for Detection	_____ PID w/ _____ Probe _____ FID _____ CGI _____ RAD _____ Det Tube _____ pH Other <u>NIOSH 5503</u>

Control Measures

Site Map with work zones:



Work Zone Definitions:

Exclusion Zone - the area where contamination is either known or expected to occur and the greatest potential for exposure exists. The outer boundary of the Exclusion Zone, called the Hotline, separates the area of contamination from the rest of the site.

Contamination Reduction Zone (CRZ) - the area in which decontamination procedures take place. The purpose of the CRZ is to reduce the possibility that the Support Zone will become contaminated or affected by the site hazards.

Support Zone - the uncontaminated area where workers are unlikely to be exposed to hazardous substances or dangerous conditions. The Support Zone is the appropriate location for the command post, medical station, equipment and supply center, field laboratory, and any other administrative or support functions that are necessary to keep site operations running efficiently.

Communications:

(X) Buddy System () Radio () Air Horn for emergencies
(X) Hand Signals (X) Visual Contact

Personnel Decontamination Procedures:

- ☐ Wet Decontamination (procedures as follows)
☒ Dry Decontamination (procedures as follows)

Used PPE and disposable sampling equipment will be cleaned on site of gross contamination and be disposed in accordance with applicable federal, state, and local regulations.

Equipment Decontamination Procedures:

- ☐ None
☒ Wet Decontamination (procedures as follows)
☐ Dry Decontamination (procedures as follows)

All non disposable stainless steel equipment (i.e. scoops, hand augers, pick or shovel) involved in field sampling activities will be decontaminated in accordance to EPA/ERT SOP # 2006 before, during and after the sampling event. Following the dry removal of adhering soil to the greatest practical extent, decontamination will be conducted as: (1)- Alconox detergent and potable water scrub. (2) – Potable water rinse, distilled water rinse, (3) Hexane rinse followed by distilled water rinse.

Adequacy of decontamination determined by: Site H&S Supervisor

Personal Protective Equipment

TASK TO BE PERFORMED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
Perimeter Recon; GPS	Level D	Coverall, steel toe boots, hard hat	N/A	N/A
In-Stream Sediment and water sampling	Level D	Saran or Tyvek and Chest Waders	Blue Nitrile/Blue Nitrile/ Booties	N/A
Floodplain Sediment Sampling	Level D	Saran or Tyvek	Blue Nitrile/Blue Nitrile/ Booties	N/A

Frequency and Types of Air Monitoring: ☐ Continuous ☐ Routine ☐ Periodic ☒ Not Required

DIRECT READING INSTRUMENTS	MultiRAE CGI/O2-H2S-CO- PHOTO IONIZATION DETECTOR	Ludlum 19 Micro-R Meter/Ludlum Model 3 Survey Meter/Probe	Photovac MicroFID	Drager Chemical Detector Tube	OTHER
ID NUMBER					
CALIBRATION DATE					
RST MEMBER					
ACTION LEVEL	$\geq 10 - 20\%$ LEL (ConfinedSpace/non- ConfinedSpace) $\leq 19.5\%$, O ₂ Deficient $\geq 23\%$ O ₂ - Enriched	3X BACKGROUND - CAUTION; 1 mR/HR - LEAVE	UNKNOWNNS: 1 - 5 UNITS - "C" 5-500 UNITS-"B"	PEL/TLV COMPARE WITH RESPONSE OF TUBE	

Emergency Telephone Numbers

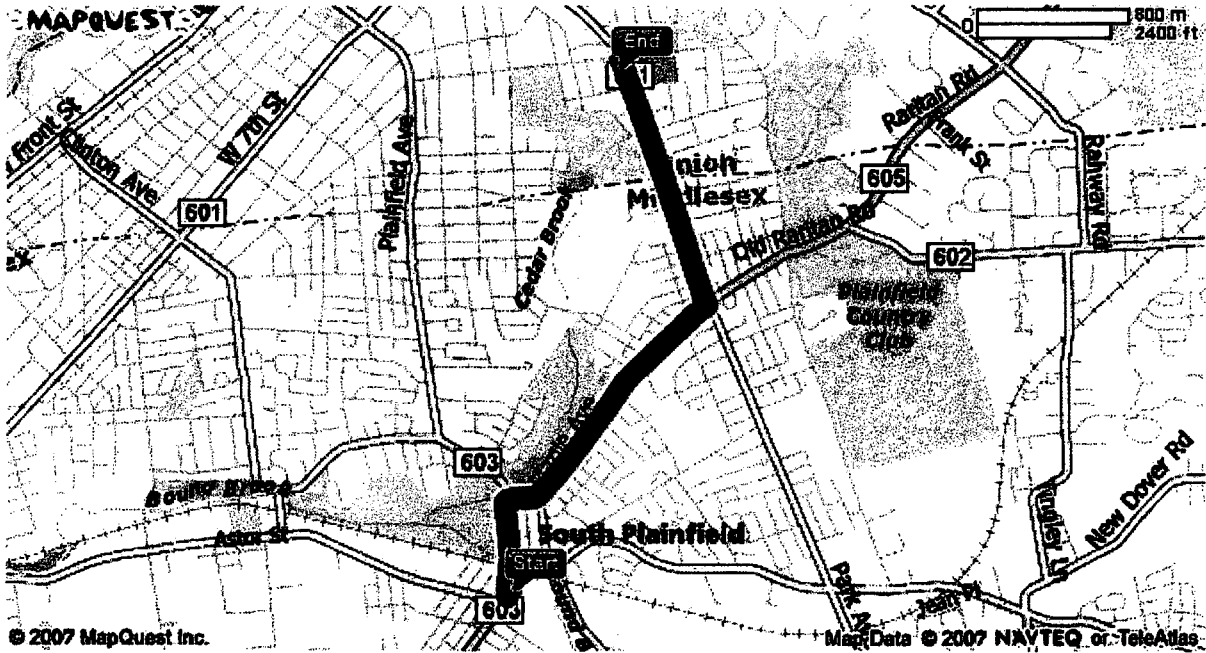
Emergency Contact	Location	Phone Number	Notified
Hospital *	Muhlenberg Regional Medical Center 1200 Randolph Rd, Plainfield, NJ 07060	(908) 668-2000	Yes
Ambulance		911	No
Police	2480 Plainfield Avenue, South Plainfield, NJ 07080	911 or (908) 755-0700	No
Fire Department	123 Maple Ave. South Plainfield, NJ 07080	911 or (908) 226-7715	No

*Chemical Trauma Capability? (X) Yes () No

If no, closest backup: _____ Phone: _____

Directions to Hospital:

1. Start out going **SOUTHWEST** on **HAMILTON BLVD** toward **LAKEVIEW AVE / CR-603**
2. Turn **SHARP RIGHT** onto **LAKEVIEW AVE / CR-603**
3. Turn **RIGHT** onto **MAPLE AVE / CR-602**
4. Turn **LEFT** onto **PARK AVE / CR-531**
5. End at **Muhlenberg Regional Med Ctr**
(Approx. 2.5 miles, 8 minutes)



Route verified by: _____ Date: ____/____/____

Additional Emergency Phone Contacts

WESTON Medical Emergency Service (Dr. E. Walker) DR. FRANK MITCHELL	800-874-4676 or 770-541-8776 (Regular Business Hours) / 404-202-6012 (After Hours) (404) 898-8723 - pager -
Chemtrec	800-424-9300
ATSDR	404-639-0615
ATF (explosives information)	800-424-9555
National Response Center	800-424-8802
National Poison Control Center	800-764-7661
Chemtel	800-255-3924

HASP prepared by: Kelly Smith Date: 11/28/07
 Pre-Response/Entry Approval by: [Signature] Date: 11/28/07
 Verbal Approval/Modification to Original HASP by: _____ Date: / /

Description of Site and Response Activities

Size of Site: _____

Terrain: _____

Weather: _____

Distance to Nearest: _____

Residence _____

School _____

Hospital _____

Public Building _____

Nearest Waterway: _____ - (name)

Other _____

Evacuation: () Yes () No

By Whom: _____

Condition	Observed	Potential	None	Comments/Observations
Surface Water Contamination				
Ground Water Contamination				
Drinking Water Contamination				
Air Release				
Soil Contamination				
Stressed Vegetation				
Dead Animal Species				

Action Taken On-Site: _____

Perimeter Monitoring: () Yes () No

Site entry by RST2: () Yes () No

Tasks Conducted	Level of Protection/Specific PPE Used

Hazardous Waste Site and Environmental Sampling Activities

Off Site: () Yes (X) No

On Site: (X) Yes () No

Describe types off samples and methods used to obtain samples:

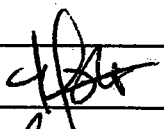
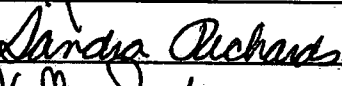
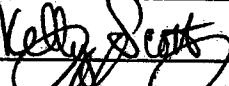
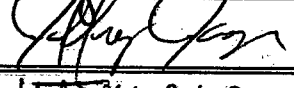
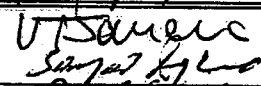
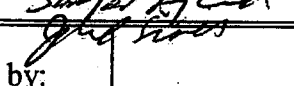

Water and sediment samples will be obtained at 50' intervals from 44 transects along ½ mile stretch of the Bound Brook (Reaches 1-4 from 1997 sampling event). Water samples will be obtained from the center of the stream. Sediment samples will be obtained from the center of the stream bed and from 2 locations along the north and south banks of the stream, approximately 5 feet and 10 feet from the edge of the stream (0-6 inch and 18-24 inch depths).

Was laboratory notified of potential hazard level of samples? (X) Yes () No

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as attachments to this HASP as applicable: Emergency Response Plan, Confined Space entry Procedures, Spill Containment Program.

Disclaimer: This Health and Safety Plan (HASP) was prepared for work to be conducted under the Removal Support Team 2 (RST2) Contract EP-W-06-072. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.

The signatures below indicate that the individuals have read and understood this Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
M. FOSTER		WESTON RST2	12/10/07
Sandra Richards		WESTON RST2	12/10/07
Kelly Scott		WESTON RST2	12-10-07
Jeff JAGEN		WESTON RST2	12/10/07
Valerie H. Isaacson		WESTON RST2	12/20/07
SAYED IQBAL		WESTON RST2	12/27/07
John L...		WESTON RST2	8/2/08
Final Submission of HASP by:			Date
Post Response Review by:			
Post Response Approval by:			
RST2 HSO Review by:			

Hazardous Waste Site and Environmental Sampling Activities

Off Site: () Yes (X) No

On Site: (X) Yes () No

Describe types of samples and methods used to obtain samples:

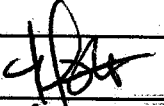

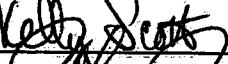

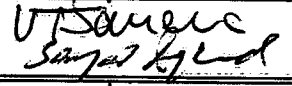
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Valerie H. Isanava SAYED IQBAL		WESTON RST2 WESTON RST2	12/20/07 12/27/07

Final Submission of HASP by:		Date
Post Response Review by:		
Post Response Approval by:		
RST2 HSO Review by:		

Air Monitoring Summary Log

Date: __/__/

Data Collected by:

Station/Location	CGI/O ₂ Meter	Radiation Meter	PID	FID	Other ()

Summary/Comments (data to be summarized by a range of readings, i.e. "Low to High" and/or "Average" by location):

ATTACHMENT A

FLDS

GENERAL

REFERENCES

Related FLD OPS:

FLD02 – Inclement Weather

FLD07 – Wet Feet

FLD15 – Remote Areas

FLD17 – Diving

FLD18 – Using Boats

FLD19 – Working Over Water

FLD25 – Working at Elevations

PROCEDURE

Persons working outdoors in low temperatures (below 40°F), and especially at or below freezing, are subject to cold stress. Exposure to extreme cold for a short time can cause severe injury to the surface of the body, or result in profound generalized cooling which, unchecked, could ultimately cause death. Areas of the body that have high surface-area-to-volume ratios, such as fingers, toes, and ears, are the most susceptible.

Chemical protective clothing generally does not afford protection against cold stress. In many instances, it increases susceptibility. Chemical hazard site workers must learn to dress carefully to provide both chemical protection and thermal insulation while not dressing so warmly that exercise or strenuous activity will result in cold stress.

Body heat is conserved through the constriction of surface blood vessels. This constriction reduces circulation at the skin layers and keeps blood nearer the body core.

Loss of body heat can occur through:

1. Respiration – In extreme cold, cover the mouth and nose with wool or fur to “pre-warm” the air you breath.
2. Evaporation – Wear layered clothing, and remove outer layers prior to overheating to avoid soaking clothing with perspiration. Replace layers prior to becoming chilled. Wear clothing that will “breathe” or allow water vapor to escape to reduce the cooling effect of evaporation.
3. Conduction – Sitting on snow, touching cold equipment, and working in the rain are examples of how heat can be lost by conduction. A great deal of body heat is lost rapidly when a person becomes wet. Hypothermia from immersion in water has resulted in death at temperatures of 40°F or lower. Perspiration or rain should never be allowed to saturate clothing; such soaking will seriously reduce the insulative properties of the clothing, in addition to increasing heat loss. Most clothing loses approximately 90 percent of its insulating properties when wet.

Revised 11/1999

4. Radiation – The greatest amount of body heat is lost from uncovered surfaces of the body, especially the head, neck, and hands. Covering these areas is, therefore, extremely important.
5. Convection – The body continually heats a thin layer of air next to the skin. As long as this warm air is retained next to the body, it will remain warm. If this warm air is removed by air currents (wind), the body will be cooled attempting to rewarm the surface air. The primary function of clothing is to retain this warm surface layer of air while allowing water vapor to pass through. Ensure that clothing remains secure around the body, especially at the neck and waist. Wind chill or equivalent chill temperature indices describe the chilling effect of moving air in combination with low temperature.

Two major factors that influence the potential of cold injury are ambient temperature and wind velocity. The term wind chill is used to describe the chilling effect of moving air in combination with low temperature. Additionally, water conducts heat 240 times faster than air; thus, the body cools suddenly when protective equipment is removed if the clothing underneath is perspiration-soaked.

Tables 1 and 2 should be consulted to adjust working schedules for wind chill conditions. These tables are meant as guides only; ambient temperatures and wind conditions should be monitored frequently and work schedules adjusted as required. Workers' physical symptoms or condition will also be an indicator of the need to modify work schedule.

Recognition and Risk Assessment

In the planning stages of a project and safety plan, the potential for cold stress disorders must be considered as physical hazards in the site-specific Health and Safety Plan (HASP). Risk assessment can be accomplished in the development stages of a project by listing in the HASP the most likely cold stress disorders which may occur. The SHSC must make decisions on the proper safety procedures and recommend them to the site manager. Each worker must evaluate the risk associated with his or her work and be actively alert to these hazards. Any site worker may stop work if safety procedures are not followed or the risk is too great. Two common cold stress disorders and treatment methods are identified below.

Frostbite

Local injury resulting from cold is included in the generic term frostbite. By definition, frostbite is the freezing of tissue, however, several stages are recognized, based on the degree of injury.

Frostbite most commonly affects the toes, fingers, and face, and occurs when an extremity loses heat faster than it can be replaced by the circulating blood. Frostbite may also result from direct exposure to extreme cold or high wind, as happens with the nose, ears, and hands. Feet may freeze because of the conduction of heat away from the skin's surface caused by damp socks and shoes.

Frostbite of the extremities can occur in three forms:

- Frost nip or incipient frostbite is characterized by sudden blanching or whitening of skin.
- Superficial frostbite is characterized by skin with a waxy or white appearance that is firm to the touch, but the tissue beneath is resilient.
- Deep frostbite is characterized by tissues that are cold, pale or darkened, and solid.

Treatment for frostbite:

- Move the victim indoors and/or away from additional exposure to cold, wet, and wind.
- Superficially frostbitten areas are best warmed by placing them next to warm skin. The basic tenant to rewarming frostbitten areas is to not raise the temperature much above that of the body. The abdomen and the armpit are body areas that can be used to rewarm frostbitten areas. Water at 99° to 104°F can be used. Avoid the use of fires, hot water, or external heaters to warm frostbitten areas.
- Give a warm drink (water or juices, not coffee, tea or alcohol). Do not allow the victim to smoke.
- If using water to rewarm the affected areas, keep the frozen parts in warm water until all paleness has turned to pink or burgundy red, but no longer. Remember, the tissue will be very painful as it thaws.
- After rewarming, elevate the area and protect it from further injury.
- Do not break blisters.
- Use sterile, soft, dry material to cover the injured areas.
- Keep victim warm and obtain medical care as necessary.
- Do not rub the frostbitten part (this may cause gangrene).
- Do not use ice, snow, gasoline or anything cold on the frostbitten area.
- Do not use heat lamps or hot water bottles to rewarm the frostbitten area.
- Do not place the frostbitten area near a hot stove.

Hypothermia

✓ Systemic hypothermia occurs when body heat loss exceeds body heat gain and the body core temperature falls below the normal 99°F. While many hypothermia cases are caused by extremely cold temperatures, most cases develop in air temperatures between 30° and 50°F, especially when compounded with water immersion or soaking, and windy conditions.

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✓ Remember that the victim of hypothermia may not know, or refuse to admit, that he or she is experiencing hypothermia. All personnel must be observant for these signs for themselves and for other team members. Hypothermia can include one or more of the following symptoms.

- Uncontrollable shivering.
- Vague, slow, slurred speech.
- Irrational actions.
- Memory lapses.
- Incoherence.
- Fumbling hands, frequent stumbling, lurching gait.
- Apathy, listlessness, and sleepiness' inability to get up after resting.
- Unconsciousness, glassy stare, slow pulse and slow respiration.
- Death.

Below the critical body core temperature of 95°F, the body cannot produce enough heat by itself to recover. At this point, emergency measures must be taken to reverse the drop in core temperature. The victim may slip into hypothermia in a matter of minutes and can die in less than 2 hours after the first signs of hypothermia are detected. Treatment and medical assistance are critical.

Treatment for hypothermia:

- ✓
- Prevent further heat loss by moving the person to a warmer location out of the wind, wet, and cold.
 - Remove cold, wet clothing. If necessary, based upon the victim's condition, external sources of heat (e.g., warm blankets, warm water baths, or body contact) may be necessary to rewarm the victim.
 - If the victim is conscious, provide warm liquids, candy, or sweetened foods. Carbohydrates are the food most quickly transformed into heat and energy. Do not give alcohol or caffeine.
 - Keep the victim awake, monitor ABCs, perform first aid as appropriate, and obtain medical assistance soon as possible.

Prevention and Protection Programs

Site workers must learn to recognize and treat the various forms of cold stress. The best approach is preventive cold stress management, such as the following:

- Wear loose, layered clothing, masks, woolen scarves, and hats in extreme cold weather.
- Keep clothes dry by wearing water and wind resistant clothing and footwear.
- ✓ • Eat well-balanced meals, ensure adequate intake of liquids and avoid alcoholic beverages. Dehydration increases risk of cold stress.
- Have warm shelter available and implement work-rest schedules.
- Monitor yourself and others for changes in physical and mental condition.

- If wearing a face protector, remove it periodically to check for frostbite.
- Never touch cold metal with bare hands.

The following guidelines should be used when working in air temperatures below 40°F.

- When cold surfaces below -7°C (19.4°F) are within reach, a warning should be given to each worker by the SHSC to prevent inadvertent contact by bare skin.
- If the air temperature is -17.5°C (0°F) or less, the hands should be protected by mittens. Machine controls and tools for use in cold conditions should be designed so that they can be handled without removing the mittens.

Provisions for additional total body protection are required if work is performed in an environment at or below 4°C (39.2°F). Workers should wear cold-protective clothing appropriate for the level of cold and physical activity:

- If the air velocity at the job site is increased by wind, draft, or artificial ventilation, the cooling effect of the wind should be reduced by shielding the work area or by wearing an easily removable windbreak garment.
- If only light work is involved and if the worker's clothing may become wet on the job site, the outer layer of the clothing in use may be of a type impermeable to water. With more severe work under such conditions, the outer layer should be water repellent, and the outerwear should be changed as it becomes wetted. The outer garments should include provisions for easy ventilation to prevent wetting of inner layers by sweat. If work is done at normal temperatures or in a hot environment before entering the cold area, the employee should make sure that clothing is not wet as a consequence of sweating. If clothing is wet, the employee should change into dry clothes before entering the cold. Workers should change socks and any removable felt insoles at regular daily intervals, or use vapor barrier boots. The optimal frequency of change should be determined empirically and will vary individually and according to the type of shoe worn and how much the individual's feet sweat.
- If the available clothing does not give adequate protection to prevent hypothermia or frostbite, work should be modified or suspended until adequate clothing is made available or until weather conditions improve.
- Workers handling evaporative liquid (gasoline, alcohol, or cleaning fluids) at air temperatures below 4°C (39.2°F) should take special precautions to avoid soaking clothing or gloves with the liquid because of the added danger of cold injury due to evaporative cooling.

Work/Warming Regimen

✓ If work is performed continuously in the cold at an equivalent chill temperature (ECT) or below -7°C (19.4°F), heated warming shelters, tents, cabins, and break rooms should be made available nearby. Workers should be encouraged to use these shelters at regular intervals, frequency depending on the severity of the environmental exposure. The onset of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, irritability, or euphoria are indications for immediate return to the shelter. When

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entering the heated shelter, the outer layer of clothing should be removed and the remainder of the clothing loosened to permit sweat evaporation, or the worker should change into dry clothing to avoid returning to work in wet clothing. Dehydration, or the loss of body fluids, occurs insidiously in a cold environment and may increase the susceptibility of workers to cold injury due to a significant change in blood flow to the extremities. Warm sweet drinks and soups should be provided at the work site to provide caloric intake and fluid replacement. The intake of caffeinated drinks should be limited because of the diuretic and circulatory effects.

For work practices at or below -12°C (10.4°F) ECT, the following should apply:

- The worker should be under constant protective observation (buddy system or supervision).
- The work rate should not be so high as to cause heavy sweating that will result in wet clothing. If heavy work must be done, rest periods must be taken in heated shelters and opportunities to change into dry clothing should be provided.
- New employees should not be required to work full-time in the cold during the first days of employment until they become accustomed to the working conditions and the use of required protective clothing.
- The weight and bulkiness of clothing should be included in estimating the required work performance and weights to be lifted by the worker.
- The work should be arranged in such a way that sitting or standing still for long periods is minimized. The worker should be protected from drafts to the greatest extent possible.
- The workers should be instructed in safety and health procedures. The training program should include, as a minimum, instruction in:
 - Proper rewarming procedures and appropriate first aid treatment.
 - Proper use of clothing.
 - Proper eating and drinking habits.
 - Recognition of signs and symptoms of impending hypothermia or excessive cooling of the body, even when shivering does not occur.
 - Safe work practices.

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Table 1

Cooling Power of Wind on Exposed Flesh Expressed as Equivalent Temperature*

Actual Temperature Reading (°F)												
Estimated Wind Speed (mph)	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
Equivalent Chill Temperature (°F)												
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(Wind speeds greater than 40 mph have little additional effect.)	LITTLE DANGER In <1 hour with dry skin. Maximum danger of false sense of security.			INCREASING DANGER Danger from freezing of exposed flesh within 1 minute.				GREAT DANGER Flesh may freeze within 30 seconds.				
	Trenchfoot and immersion foot may occur at any point on this chart.											

* Developed by U.S. Army Research Institute of Environmental Medicine, Natick, MA.

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Table 2

Cold Work/Warmup Schedule for 4-Hour Shifts,

EQUIVALENT CHILL TEMPERATURE	MAXIMUM WORK PERIOD	NO. OF BREAKS
$\geq -24^{\circ}\text{F}$	Normal	1
-25° to -30°F	75 minutes	2
-31° to -35°F	55 minutes	3
-36° to -40°F	40 minutes	4
-41° to -45°F	30 minutes	5
$\leq -46^{\circ}\text{F}$	Stop work	Stop work

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FLD 11 ROUGH TERRAIN

GENERAL

REFERENCES

Related FLD OPS:

FLD02 – Inclement Weather

FLD05-Heat Stress

FLD06-Cold Stress

FLD15 – Remote Areas

FLD22-Heavy Equipment Operation

FLD47-Clearing and Grubbing

Hazard

Physical hazards associated with rough terrain include vehicle accidents, heavy equipment incidents, falling, slipping, and tripping. Driving vehicles on uneven surfaces creates a possibility of the vehicle rolling, getting stuck in mud or ditches, or of an accident due to flat tires or striking obstacles and other vehicles. Heavy or downed vegetation can hide holes or breaks in the terrain, which increase risk of slips, trips, and falls or vehicle accidents.

Recognition and Risk Assessment

Rough terrain complicates work activities and adds or increases risk. In the planning stages of a project, rough terrain must be considered as a physical hazard. Risk assessment is usually accomplished from site history information (i.e., site topography) and onsite by the Site Health and Safety Coordinator (SHSC).

Hazard Prevention and Protection Programs

Hazard prevention can be achieved by ensuring regular maintenance is performed on vehicles. In order to minimize accidents, site surveillance on foot may be required to ensure clear driving paths. The site crew should be alert and observe terrain while walking to minimize slips, trips, and falls. Boots that are ankle high or higher should be worn to provide additional support and stability. Vehicle drivers and passengers should wear seatbelts at all times. 4 wheel drive vehicles should be used if terrain conditions are wet, frozen, broken, or otherwise deemed unsafe for 2 wheel drive vehicles by the SHSC.

When clearing and grubbing activities are being conducted, the equipment operator is to be protected by a fully enclosed cab. Chainsaw operators are to wear chaps, hardhat, face/ear and eye protection. Ground personnel should always be alert for snakes and wild animals.

Personnel should maintain a high level of physical conditioning due to increased body stress and exertion. Emergency communications such as a cell phone or two-way radio should be carried at all times. Personnel should be aware of potential hazards and ensure the availability of first aid supplies and knowledge of the location of the nearest medical assistance.

FLD 19 WORKING OVER OR NEAR WATER

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GENERAL

REFERENCES

Related FLD OPS:

FLD02 – Inclement Weather

FLD05 – Heat Stress Prevention and Monitoring

FLD06 – Cold Stress

FLD18 – Operation and Use of Boats

FLD22 – Heavy Equipment Operation

FLD23 – Crane/Lifting Equipment

FLD24 – Aerial Lifts/Manlifts

FLD25 – Working at Elevation

PROCEDURE

Hazards associated with working around water include drowning, frostbite, hypothermia, and or injury from falling into the water. Heat stress hazards may also be present.

Carelessness, horseplay, or other unsafe acts could cause injury to personnel working over or near water.

There are also hazards associated with untrained personnel operating equipment.

Lack of personal protective equipment (PPE) or misuse of PPE could result in injury or death.

Recognition and Hazard Assessment

Proper precautions should be taken at all times when personnel are working over or near water. Whenever there is a body of water in close proximity to a work location, the proper safety procedures should be implemented. Requirements for equipment or procedures will be based on an evaluation of work tasks, drowning, and injury potential.

New field team members should be thoroughly indoctrinated in safe work practices pertinent to the work to which they are assigned.

Prevention and Protection Program

✓ When working over or near water where there is potential for drowning, engineering controls such as installation of guardrails, toeboards, and other PPE such as safety line systems, shall be used to prevent personnel from falling into the water. In addition, flotation devices must be worn and other lifesaving devices must be present. Personal flotation devices (PFDs) should be designed to float unconscious or helpless persons face up.

Safety nets:

1. Safety nets must be provided when workplaces are more than 25 feet above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts are impractical.

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- a) Where safety net protection is required, operations shall not be undertaken until the net is in place and has been tested.
 - b) Nets shall extend 8 feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work surface as practical, but in no case more than 25 feet below such work surface. Nets shall be hung with sufficient clearance to prevent user's contact with the surfaces or structures below. Such clearances shall be determined by impact load testing.
2. It is intended that only one level of nets be required for bridge construction.
 3. The mesh size of nets shall not exceed 6 inches by 6 inches. All new nets shall meet accepted performance standards of 17,500 foot-pounds minimum impact resistance, as determined and certified by the manufacturer, and shall bear a label of proof test. Edge ropes shall provide a minimum breaking strength of 5,000 pounds.
 4. Forged steel safety hooks or shackles shall be used to fasten the net to its supports.
 5. Connections between net panels shall develop the full strength of the net. Where work locations are such that a reaching pole is infeasible, ring buoys with at least 90 feet of line must be available within 200 feet. A lifesaving skiff should be readily available where large water bodies or worker clothing or equipment burdens would make a ring buoy ineffective.

First aid supplies should be aboard all lifesaving craft or readily accessible and arrangements for ambulance service should be made as location changes.

Personnel should be discouraged from jumping to or from any craft which is not secured, and from jumping between craft when a gangplank should be used.

Fall protection should be provided when working over or near water where there is a potential for falling or slipping into the water.

In areas subject to tidal flow or rising water levels, the SHSC will monitor the water level to ensure that employees will not be trapped between a work area and the water level.

Standard Operating Procedures

Equipment and procedures will conform to U.S. Coast Guard (USCG) and/or Occupational Safety and Health Administration (OSHA) requirements and applicable local regulations.

✓ Personnel working over or near water shall be provided with USCG-approved PFDs (life jackets or buoyant work vests), which shall be worn whenever there is potential drowning hazard. PFDs should be designed to float unconscious or helpless persons face up.

Prior to and after each use, PFDs and life preservers shall be inspected for defects which would alter their strength or buoyancy (e.g., rips, tears, holes). All defective units shall be removed from the site and replaced. At no times will defective units be used.

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USCG-approved life rings (rope attachment not required) and ring buoys (rope attachment required) should have attached at least 90 feet of 3/8-inch solid braid polypropylene rope or equal. The life rings or ring buoys shall be readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet. One ring buoy or life ring shall be provided on each lifesaving skiff.

Lights conforming to 16 CFR 161.012 will be required whenever there is a potential need for life rings to be used after dark. Lights on life rings are required only in locations where adequate general lighting (e.g., floodlights) is not provided.

At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water. Personnel trained in launching and operating the skiff shall be readily available during working hours. Skiffs shall be kept afloat or ready for instant launching. At a minimum, skiffs shall be equipped as follows:

- Four oars (two if the skiff is motor powered).
- Oarlocks attached to gunwales or the oars.
- One ball-pointed boat hook.
- One ring buoy with 90 feet of 3/8-inch solid braid polypropylene rope or equivalent line attached.
- PFDs equaling the skiff rating for the maximum number of personnel allowed on board.
- First aid kit.

In locations where waters are rough or swift, or where manually-operated boats are not practical, a power boat suitable for the waters shall be provided and equipped for lifesaving.

✓ The maximum number of passengers and weight that can safely be transported shall be posted on all launches, motorboats, and skiffs. This number shall not be exceeded and in no case shall the number of passengers (including crew) exceed the number of PFDs aboard. Outboard motors and skiffs shall meet the minimum flotation requirements of the USCG. A certification tag affixed to the hull is satisfactory evidence of compliance. An efficient whistle or signal device shall be provided on all powered vessels to give signals required by the navigation rules applicable to the waters on which the vessel is operated.

Any vessel, except those easily boarded from the water, shall provide at least one portable or permanent ladder of sufficient length to rescue a person overboard.

Fixed ladders over 20 feet high shall have attached safety climbing devices for the attachment of safety belts, or shall be enclosed in a safety cage.

A person in the water shall be considered a person overboard and appropriate action taken.

All general safety precautions will be adhered to when working over or near water to prevent accidents caused from careless behavior or horseplay.

Only personnel who are trained in the operation of marine equipment (e.g., boats, barges) will be allowed to operate the equipment.

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Ramps for access of vehicles or personnel to or between barges shall be of adequate strength, provided with guard rails, well-maintained and properly secured. In the case of personnel access, a safe walkway may be substituted for the ramp. All routes of access and passageways shall be kept free of ice, snow, grease, mud, and other obstructions. Nonslip surfaces shall be provided on all working decks, stair treads, ship ladders, platforms, catwalks, and walkways, particularly on the weather side of all doorways opening on deck.

Guardrails, bulwarks, or taut cable guardlines shall be provided for deck openings, elevated surfaces, and similar locations where persons may fall or slip. They shall be at least 42 inches high and have an intermediate rail.

If a Jacob's ladder is used, it will be of the double-rung or flat-tread type. It will be well-maintained and properly secured. The ladder will either hang without slack from its lashings or be pulled up entirely. When the upper end of the access-way rests on or is flush with the top of the bulwark (side of the ship above the upper deck), steps, properly secured and equipped with at least one hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.

Obstructions will not be laid on or across gangways. The access-way will be adequately illuminated for its full length. All attempts will be made to place the access-way in a position that the load will not pass over personnel.

Any obstruction in a passageway that restricts normal passage shall be posted with warning signs or distinctively marked. Employees shall not be permitted to pass fore and aft, over or around the deck loads unless there is a safe passage. Decks and other working surfaces will be maintained in a safe condition and adequate safe walkways will be maintained for passage around the deck. All deck fittings and other obstructions that present stumbling hazards shall be painted yellow or marked with yellow trim.

Personnel will not walk along the sides of covered barges with coamings (raised frame to keep out water) more than 5 feet high unless there is a 3-foot clear walkway, a grab rail, or a taut handline.

Unless railings or other suitable protection exists, all personnel will use suitable protection against falling and/or drowning.

Floating Cranes

Barge-mounted cranes, designed and constructed as a unit, shall be rated by the manufacturer.

All barge-mounted cranes shall be on barges of sufficient size to limit list under load to approximately 5 degrees. The rated load of the crane shall not exceed the original capacity specified by the manufacturer.

Work shall be halted when significant wave action exists.

A load-radius chart and boom angle or radius indicator shall be provided within the operator's view. When load ratings are reduced to stay within the barge list limits, a new load rating chart shall be provided.

Floating cranes and floating derricks in use shall meet the requirements for design, construction, testing, installation, maintenance, and operation discussed in American National Standards Institute (ANSI) B30.8, Safety Code for Floating Cranes and Floating Derricks. Draglines shall meet power Crane and Shovel Association Standard #4. Performance tests shall demonstrate the strength stability, capability, and adequacy of power brakes clutches and controls in accordance with the following table.

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PERFORMANCE TEST FOR FLOATING CRANES

Safe Working Load

Up to 20 Tons

20 to 50 tons

Over 50 tons

Test Load

125% of working load

Working load plus 5 tons

110% of working load

Truck and crawler cranes shall be securely attached to the barge. When stability of the barge is not a factor and control barriers are provided, limited travel may be authorized by the designated authority.

The rated load of a barge-mounted mobile crane shall not exceed the original capacity specified by the manufacturer.

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WESTON SOLUTIONS, INC.
Federal Programs Division
Region II Removal Support Team 2 (RST2)
1090 King Georges Post Road
Edison, NJ 08837
(732) 585-4400

PROJECT/SITE NAME Cornell Dubilier Electronics Site

BASE PERIOD II 0007-0115

BASE PERIOD III TDD NO. 0009-0008

RST2 SITE PROJECT MANAGER (BASE PERIOD I) John Brown

The signatures below denote that work conducted at the above mentioned site by the Region II Removal Support Team 2 under the Base Period will follow the site-specific Health & Safety Plan (HASP) which was approved under the preceding Period(s) of the contract. A copy of the approved HASP is attached to this declaration.

RST2 SITE PROJECT MANAGER [Signature] Date 8/12/08

RST2 HEALTH & SAFETY MANAGER [Signature] Date 8/12/08